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MONTHLY NOTICES

OF THE

ROYAL ASTRONOMICAL SOCIETY.

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William Huggins, Esq., F.R.S., President, in the Chair.

Sun-Spot Drawings of the Rev. Frederick Howlett and Hofrath Schwabe.

The Rev. Frederick Howlett has presented to the Society five oblong quarto volumes of Sun-spot Drawings, made by him in the course of the last seventeen years. In the first four volumes the whole of the Sun's disk is given on a scale of about three and a quarter inches to the Sun's diameter; the places of the spots, and the outlines of the groups and penumbræ, were laid down while the image of the Sun was thrown upon the paper by means of a three-inch refracting telescope by Dollond. Enlarged drawings of the more remarkable spots are also given. In the later volumes the drawings are made upon tracing paper, which is reversed in the book, so that they appear as if seen with an ordinary erecting eye-piece. The position of the north point is not marked upon the drawings, but as the hour and minute corresponding to the time of observation is in all cases given, the orientation of the Sun's disk may be approximately determined by calculation, the highest part of the drawing on the page being assumed to coincide, in the case of the earlier sketches with the part of the Sun's disk nearest to the horizon, and in the case of the later drawings with the part of the solar disk highest above the horizon.

In compiling the list of Sun-spot manuscripts, given in the March number of the *Monthly Notices*, the manuscript Observations of Hofrath Schwabe were by accident omitted. In 1864 Messrs. De La Rue and Balfour Stewart wrote to Hofrath Schwabe to request that he would allow his original manuscripts to be sent to England. In answer to their letter, the following communication was received:

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"Gentlemen,—The request contained in your letter, although in the highest degree honourable and complimentary to me, and although it gives me an opportunity to show the Royal Astronomical Society my gratitude for the Royal Medal granted to me, has still cost me some struggle before complying with it, for it is not easy to part with what has given me very often much pleasure and enjoyment as a compensation for the labour devoted to the work.

"But in complying with your desire I do so on one condition, viz. that you would grant me permission to obtain the Observations back again at any time that I should be desirous of looking into them during the short time of life still left to me. I do not think that I shall have an occasion to avail myself of the permission asked for; but permit me kindly to believe that it is in my power to do so. After my death you may consider the whole of the Observations as the property of the Royal Astronomical Society.

"Please to write me if you are willing to agree to the above desire, and I shall then immediately send you my astronomical diaries, &c., from 1825 to the end of 1864.

"I remain, gentlemen, yours very faithfully,

"S. H. SCHWABE."

On receipt of this letter Mr. Loewy was despatched to Dessau by the Directors of the Kew Observatory, and Hofrath Schwabe delivered into his hands thirty-nine volumes, which have remained at Kew until the present time, but which are held by the Observatory as the property of the Royal Astronomical Society.

The following description of the manuscripts has been given by Mr. Whipple:—

1825. Small quarto; about 60 pages; commencing Sept. 30; principally occupied with detailed observations and drawings of the Lunar Surface. The first Sun-spot observation occurs on Oct. 30. Occasional details and positions given to end of year. Stitched; paper cover.

1826. Small quarto; about 400 pages. Contents similar to preceding vol. Some of the drawings very elaborate. In addition, there are several observations of *Saturn*, and a Table of Contents. Stitched; paper cover.

1827. Small quarto; about 400 pages. Contents similar to preceding vols. Has several drawings of *Jupiter* and one of *Venus*. Table of Contents. Half-bound; leather back.

1828–29. Large quarto; about 400 pages. Drawings and details of Sun-spots very numerous. A few drawings of other objects. Bound in brown holland.

1830. Large quarto; about 200 pages. Contents similar to preceding. Contains a series of well-executed drawings of *Mars*. Brown holland binding.

1831. Small quarto; about 300 pages. Sun-spot drawings, principally confined to indications of position. A number of drawings of *Jupiter*; scarcely any of lunar objects. Half-bound; leather back.

1832. Large quarto; about 200 pages. Very similar to last. Bound in brown holland.

1833–4–5. Three large quarto vols., each containing about 200 pages. Contents chiefly Sun-spot positions. Vol. for 1835 contains numerous drawings of Halley's Comet. Brown holland binding.

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1836-7-8. Large quarto; about 350 pages. Contains drawings of Sun-spot positions, one observation of *Mars*, and a series of drawings of Encke's Comet. Brown holland binding.

1839-40. One vol.; foolscap; about 300 pages. Principally Sun-spot positions. Holland binding.

1841-51. Eleven vols.; large quarto; each averaging 250 pages. Contents similar to preceding. Drawings of other objects than Sun-spots are very few. Vol. for 1843 contains summary of Sun-spot groups observed from 1825 to the end of 1843. Holland binding.

Note.—A remarkably fine Sun-spot is delineated for Sept. 20, 1848. From 1846, at end of each year, there is a detailed summary of the Sun-spot observations made during the year.

1852-62. Eleven vols.; large quarto: each averaging 200 pages. Similar in character to preceding volumes. That for 1855, on the 25th of Sept., contains a nicely-finished drawing of *Jupiter* in colours. Brown holland binding.

1863-4-5. Three vols.; large quarto: about 100 pages each; containing observations of the usual character. Bound in brown holland.

1866-67. Unbound; stitched paper; about 100 pages each. They do not possess the Annual Summary of Sun Observations, which was discontinued in 1865.

On Lohrmann's and Schmidt's Lunar Maps, and Note on a New Red Star. By John Birmingham, Esq.

(*From a Letter to E. Dunkin, Esq., Secretary.*)

Perhaps you would be kind enough to inform the Society at the next meeting that Lohrmann's complete Map, of which four sections have been hitherto published, has been lately engraved by Herr J. A. Barth, of Leipzig, under the supervision of Dr. Schmidt, Director of the Athens Observatory, who has contributed a descriptive letter-press. The map is three feet in diameter.

Dr. Schmidt's own great Lunar Map of six French feet diameter will be soon issued from the *atelier* of the Prussian staff; the Prussian Government having, with great credit to itself, purchased it. It is the result of thirty-four years' labour, containing about 34,000 craters, and an equal number of hills, besides over 350 rills and other objects, and it must be considered a work of unsurpassed scientific capability and perseverance.

I beg you will also inform the Society that I have lately observed a red star of remarkable depth of colour in the approximate position of R.A. = $18^h\ 28^m$; Decl. = $+36° 54'$; 8·3 magnitude. It does not appear as a red star in any Catalogue that I know of.

Millbrook, Tuam,
1876, *May* 10.